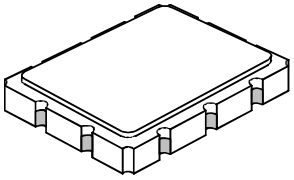
SF1133A

246 MHz SAW Filter

- ***Designed for GSM BTS Receiver IF Applications***
- ***Compatible with National Semiconductor Chip Set***
- ***Very Flexible Impedance Matching***
- ***Unbalanced or Balanced Input or Output***
- ***Complies with Directive 2002/95/EC (RoHS)***



SM9171-10

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+15	dBm
Max. DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Suitable for lead-free soldering - Max. Soldering Profile	260°C for 30 s	

Electrical Characteristics

Characteristic		Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency		f_C	1		246.000		MHz
Passband	Insertion Loss at fc	IL				7.0	dB
	1 db Passband	BW_1		±100			kHz
	Amplitude Ripple over fc±100 kHz		1, 2			1.0	dB_{P-P}
	Group Delay Variation over fc ±100 kHz	GDV				500	ns_{P-P}
Rejection	fc-800 to fc-600 and fc+600 to fc+800 kHz			20			
	fc-30 MHz to fc-800 kHz			30			
	fc+800 kHz to fc+17 MHz		1, 2, 3	30			dB
	fc-80 MHz to fc-30 MHz			35			
	fc+17 Mhz to fc+80 MHz			35			
Operating Temperature Range		T_A	1	-35		+85	°C

Impedance Matching to 50 Ω Unbalanced	External L-C
Impedance Matching to 200 Ω Balanced	External L-C
Case Style	SMP9171-10 9.1 x 7.1 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week)	RFM SF1133A YYWW

Notes:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. Electrostatic Sensitive Device. Observe precautions for handling.

Electrical Connections

Connection	Terminals
Port 1 Hot	10
Port 1 Gnd Return	1
Port 2 Hot	5
Port 2 Gnd Return	6
Case Ground	All others

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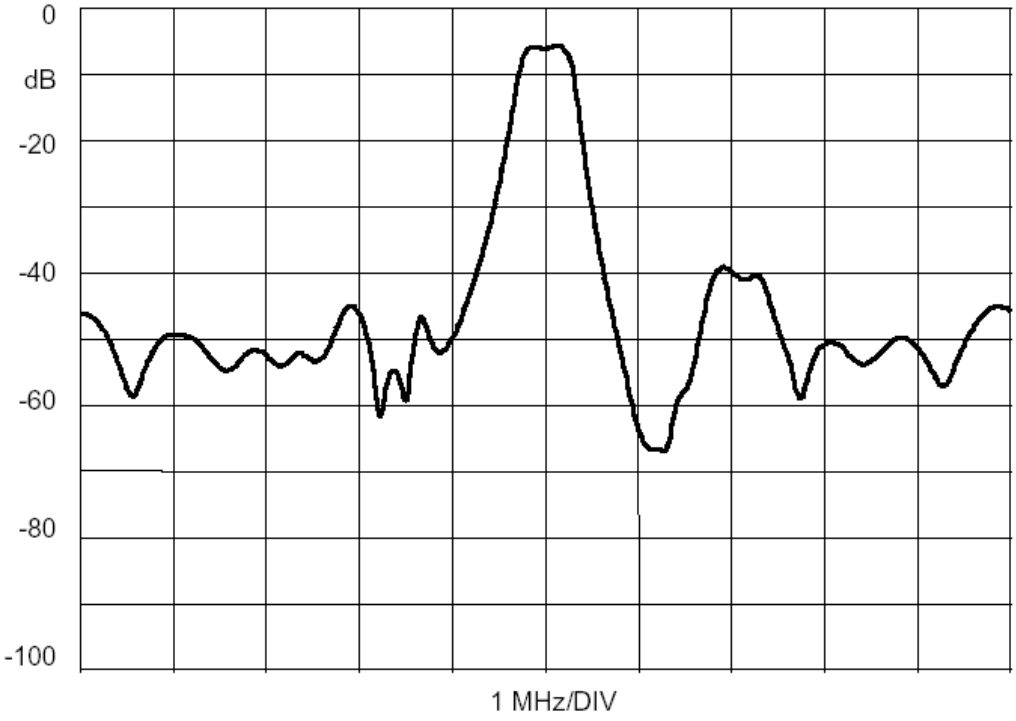

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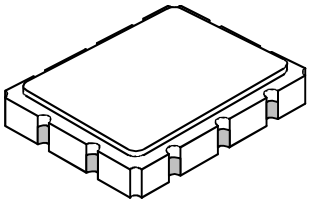
SM9171-10 Case

10-Terminal Ceramic Surface-Mount Case
9.1 x 7.1 mm Nominal Footprint



Case Dimensions						
Dimension	**mm**			**Inches**		
	Min	**Nom**	**Max**	**Min**	**Nom**	**Max**
A	8.86	9.09	9.40	0.349	0.358	0.370
B	6.88	7.11	7.40	0.271	0.280	0.291
C		1.91	2.00		0.075	0.079
D		0.99			0.039	
E		0.79			0.031	
H		1.0			0.039	
P		2.54			0.100	

Materials	
Solder Pad Termination	Au plating 30 - 60 µinches (76.2-152 µm) over 80-200 µinches (203-508 µm) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 µinches Thick
Body	Al_2O_3 Ceramic
Pb Free	

Electrical Connections		
Connection		**Terminals**
Port 1	Input or Return	6
	Return or Input	5
Port 2	Output or Return	1
	Return or Output	10
Ground		All others
Single Ended Operation		**Return is ground**
Differential Operation		**Return is hot**